

**CLAIMS**

1. A dry premix comprising a hydraulic binder, finely ground slag, a fluidifier and/or superfluidifier, a setting regulator, and aggregates characterized as follows:
  - (i) the aggregates are made up, for 75-95 wt%, of three highly monogranular fractions (A, B, C), having a characteristic grain diameter increasing progressively from A to B to C.
  - (ii) the ratio between the characteristic grain diameters of the fractions C and B is comprised between 2.2 and 3.2;
  - (iii) the ratio between the characteristic grain diameters of the fractions B and A is comprised between 2.2 and 3.2;
  - (iv) the remaining portion of aggregates (5-25 wt%) consists of a fourth fraction (D) having a low monogranularity; and
  - (v) Fraction A represents at least 40 wt% of the total aggregates present in the dry premix.
- 15 2. The premix according to Claim 1, where the ratio between the characteristic grain diameters of the fractions C/B and/or B/A is comprised between 2.5 and 3.0.
3. The premix according to Claims 1-2, the fractions A, B, C represent 85-92 wt% of the total aggregates, and the fraction D represents 8-15 wt% of the total aggregates.
- 20 4. The premix according to Claims 1-3, in which the division in weight percentage of the three fractions A, B, C, with respect to their sum, is the following:
  - Fraction A: 50 wt% – 70 wt%;
  - Fraction B: 10 wt% – 20 wt%;
  - 25 - Fraction C: 18 wt% – 32 wt%.
5. The premix according to Claims 1-4, in which the division in weight percentage of the three fractions A, B, C, with respect to their sum, is the following:
  - Fraction A: 55 wt% – 65 wt%;
  - Fraction B: 12 wt% – 18 wt%;
  - 30 - Fraction C: 21 wt% – 29 wt%.
6. The premix according to Claims 1-5, in which the characteristic grain diameter  $X_0$  of the different fractions of aggregates is the following:

- Fraction A: 0.2 – 0.4 mm;
  - Fraction B: 0.6 – 0.8 mm;
  - Fraction C: 1.6 – 2.4 mm;
  - Fraction D: 0.1 – 0.3 mm
- 5    7. The premix according to Claims 1-6, where the aggregates as a whole represent from 40 wt% to 60 wt% of the dry premix.
8. The premix according to Claims 1-7, where the hydraulic binder is a Portland cement.
9. The premix according to Claims 1-8, where the fluidifiers/superfluidifiers are
- 10    compounds of a melaminic, naphthalenic, or acrylic type.
10. The premix according to Claims 1-9, where the setting regulators are citric acid, boric acid, and tartaric acid.
11. A pourable cementitious mortar comprising water, a hydraulic binder, finely ground slag, a fluidifier and/or superfluidifier, a setting regulator, and
- 15    aggregates, characterized as follows:
- (i) the aggregates are made up, for 75-95 wt%, of three highly monogranular fractions (A, B, C) having a characteristic grain diameter increasing progressively from A to B to C.
  - (ii) the ratio between the characteristic grain diameters of the fractions C and B is comprised between 2.2 and 3.2;
  - (iii) the ratio between the characteristic grain diameters of the fractions B and A is comprised between 2.2 and 3.2;
  - (iv) the remaining portion of aggregate (5-25 wt%) consists of a fourth fraction (D) having a low monogranularity; and
  - 20    (v) fraction A represents at least 40 wt% of the total aggregates present in the mortar.
12. Use of a dry premix according to Claims 1-10, for the preparation of pourable mortars with a high degree of fluidity and high development of resistance.
13. Use of a pourable mortar according to Claim 11, for applications in the cement
- 30    sector.
14. Use according to Claim 13, for the recovery of deteriorated building works, consolidation of rock formations, structural reinforcement, injection in the

conduits of tendons, immobilization of toxic-noxious refuse, and in the production of cementitious products by means of pouring in moulds.

15. Use according to Claim 14, in which said moulds are foundry earth moulds.

16. A process for preparing a pourable mortar with a high degree of fluidity,

5       characterized by mixing together water and the components of the dry premix defined in Claims 1-10.

17. The process for preparing cementitious products, characterized by pouring and solidifying in appropriate moulds a mortar according to Claim 11.

18. A cementitious product obtainable by means of the process described in Claim  
10       16.

19. The cementitious product characterized in that it contains the components described in Claim 1.

20. A cementitious composition useful for preparing high-resistance cementitious products, obtainable by mixing together the components indicated in Claim 1

15       or in Claim 11.